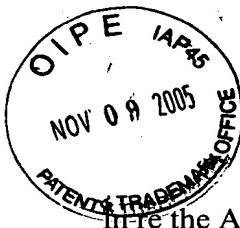


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PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of

Koichiro NAKATANI et al.

Group Art Unit: 3748

Application No.: 10/607,154

Examiner: T. NGUYEN

Filed: June 27, 2003

Docket No.: 116377

For: DEVICE FOR PURIFYING EXHAUST GAS FOR ENGINE

REQUEST FOR RECONSIDERATION UNDER 37 C.F.R. §1.111

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In reply to the Office Action mailed August 25, 2005, and the personal interview conducted on October 19, 2005, reconsideration of the above-identified application is respectfully requested. Claims 1-32 are pending. Applicants appreciate the allowance of claims 1-17 and the indication of allowable subject matter in claims 23, 24 and 26.

Applicants appreciate the courtesies shown to Applicants' representative by Examiner Nguyen during the October 19 personal interview. Applicants' separate record of the substance of the interview is incorporated into the following remarks.

Claims 18-21, 25, and 27-32 were rejected under 35 U.S.C. §103(a) over Molinier, U.S. Patent No. 6,758,036, in view of Takahashi et al. (Takahashi), U.S. Patent No. 6,679,050. The rejection is respectfully traversed.

Molinier and Takahashi fail to disclose or suggest a device for purifying exhaust gas, wherein discharge of SO_x from a SO_x storage is prevented or suppressed while an auxiliary catalyst is in, or is turned to, a sulfate forming atmosphere in which the SO_x is converted to

sulfate and is discharged to the outside air and in which an amount of a reducing agent contained in the exhaust gas flowing to the auxiliary catalyst is smaller than an allowable minimum amount, and a temperature of the auxiliary catalyst is higher than an allowable maximum temperature, as recited in claim 18.

In the Amendment filed August 4, 2005, Applicants argued that Molinier's NO_x absorber 5 does not correspond to Applicants' auxiliary catalyst. Applicants maintain the argument and note that the Office Action does not respond to Applicants' argument.

Assuming that Molinier's NO_x absorber 5 is an auxiliary catalyst (which Applicants do not admit), Molinier teaches away from placing the NO_x absorber 5 in a sulfate forming atmosphere, as explained below. Molinier thus fails to provide any suggestion or motivation with regard to placing the NO_x absorber 5 in a sulfate forming atmosphere. Accordingly, Molinier fails to provide any disclosure or suggestion as to how their system could or would operate if their NO_x absorber 5 would be placed in a sulfate forming atmosphere.

The object of Molinier is to prevent sulfur re-adsorption on downstream NO_x absorbers as a part of a dynamic maintenance strategy (col. 6, line 66 - col. 7, line 2). In order to prevent sulfur re-adsorption (and thus sulfur poisoning), Molinier places the NO_x absorber 5 in a rich environment by introducing fuel (reducing agent) to the NO_x absorber 5 before a sulfur trap and/or particulate trap regeneration stream enters the NO_x absorber 5 (col. 5, line 61 - col. 6, line 6). Molinier thus explicitly teaches away from placing the NO_x absorber 5 in a sulfate forming atmosphere because Molinier introduces fuel, which is an example of a reducing agent.

Accordingly, Molinier teaches away from placing the NO_x absorber 5 in a sulfate forming atmosphere (in which the SO_x is converted to sulfate and is discharged to the outside air and in which an amount of a reducing agent contained in the exhaust gas flowing to the auxiliary catalyst is smaller than an allowable minimum amount and a temperature of the

auxiliary catalyst is higher than an allowable maximum temperature). It is erroneous to assert that Molinier places the NO_x absorber 5 in a sulfate forming atmosphere when Molinier explicitly teaches away from placing the NO_x absorber 5 in a sulfate forming atmosphere.

Because, Molinier teaches away from placing the NO_x absorber 5 in a sulfate forming atmosphere, Molinier fails to provide any disclosure or suggestion as to how their system would operate if the NO_x absorber 5 was placed in a sulfate forming atmosphere. In other words, Molinier fails to disclose or suggest preventing or suppressing the discharge of SO_x stored in a SO_x storage while an auxiliary catalyst is in, or is turned to, a sulfate forming atmosphere, as recited in claim 18.

Molinier also fails to provide any disclosure or suggestion with regard to preventing or suppressing the discharge of SO_x stored in a SO_x storage. Molinier schematically illustrates a sulfur trap 3 (alleged SO_x storage) between an engine and a valve 6 (Figs. 1 and 6). Molinier fails to provide any disclosure or suggestion with regard to controlling the engine or the sulfur trap 3 such that the discharge of SO_x from the sulfur trap 3 is prevented or suppressed.

Takahashi fails to overcome the deficiencies of Molinier. Although Takahashi identifies that the SO_x trapping rate increases under certain conditions (col. 5, lines 17-36), there is no teaching or suggestion with regard to placing Molinier's NO_x absorber 5 in a sulfate forming atmosphere because Molinier teaches away from creating a sulfate forming atmosphere. Furthermore, Takahashi fails to provide any disclosure or suggestion with regard to preventing or suppressing the discharge of SO_x stored in a SO_x storage while Takahashi's three-way catalyst 9 is in a sulfate forming atmosphere.

According, Molinier and Takahashi fail to disclose or suggest all of the features recited in claim 18 as well as the additional features recited in the dependent claims thereof. It is respectfully requested that the rejection be withdrawn.

Claim 22 was rejected under 35 U.S.C. §103(a) over Molinier in view of Takahashi and Hirota et al. (Hirota), U.S. Patent No. 5,974,791. The rejection is respectfully traversed.

Hirota fails to overcome the deficiencies of Molinier and Takahashi in disclosing the system of claim 18. Accordingly, none of the applied references disclose or suggest all of the features recited in claims 18 and 22. It is respectfully requested that the rejection be withdrawn.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-32 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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JAO:SMS/ccs

Date: November 9, 2005

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